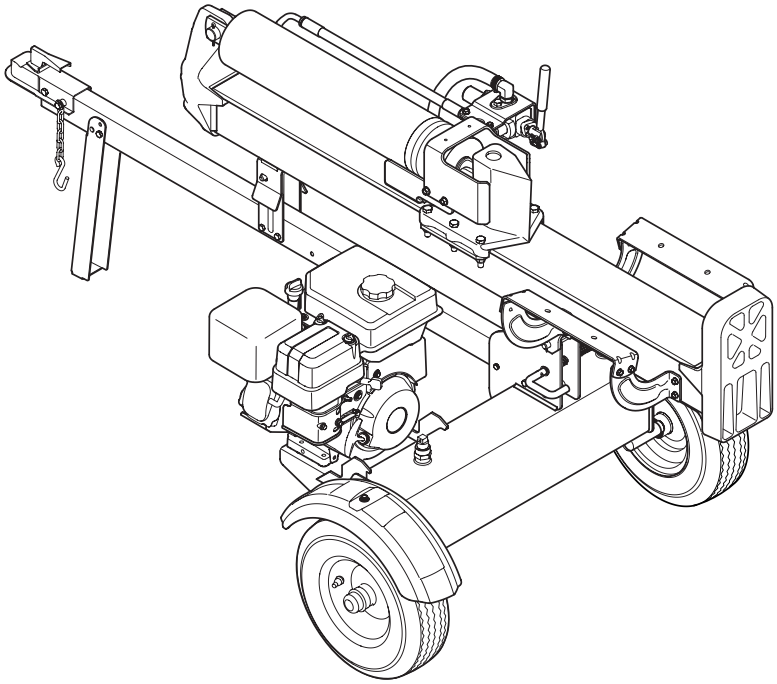
Safe Operation Practices • Set-Up • Operation • Maintenance • Service • Troubleshooting • Warranty

ROVER™

OPERATOR'S MANUAL



RM 33 LS

⚠ WARNING

READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE.
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

MTD LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019

Printed In USA

Form No. 769-08151B
(September 10, 2012)

To The Owner

1

Thank You

Thank you for purchasing an MTD Log Splitter It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

If applicable, the power testing information used to establish the power rating of the engine equipped on this machine can be found at www.opei.org or the engine manufacturer's web site.

If you have any problems or questions concerning the machine, phone your local authorized MTD service dealer or contact us directly. MTD's Customer Support telephone numbers, website address and mailing address can be found on this page. We want to ensure your complete satisfaction at all times.

Throughout this manual, all references to *right* and *left* side of the machine are observed from the operating position

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Record Product Information

Before setting up and operating your new equipment, please locate the model plate on the equipment and record the information in the provided area to the right. You can locate the model plate by standing at the operator's position and looking down at the top of the reservoir tank behind the engine. This information will be necessary, should you seek technical support via our web site, Customer Support Department, or with a local authorized service dealer.

MODEL NUMBER

SERIAL NUMBER

Customer Support

Please do NOT return the machine to the retailer or dealer without first contacting the Customer Support Department.

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

◊ Visit us on the web at www.mtdproducts..com

See How-to Maintenance and Parts Installation Videos at **www.mtdparts.com/KnowledgeCenter**

◊ Call a Customer Support Representative at 1300 951 594

◊ Write to MTD Products Australia Pty Ltd. • P.O. Box 376 • Dandenong. Vic. • 3175

Important Safe Operation Practices

2

WARNING! This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury.
When you see this symbol. **HEED ITS WARNING!**

CALIFORNIA PROPOSITION 65

WARNING! Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

DANGER! This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating hands and feet and throwing debris. Failure to observe the following safety instructions could result in serious injury or death.

Training

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 16 years of age to operate this machine. Children 16 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.
4. Never allow adults to operate this machine without proper instruction.
5. Many accidents occur when more than one person operates the machine. If a helper is assisting in stacking logs, never activate the control until the helper is a minimum of 10 feet from the machine.
6. Keep bystanders, pets, and children at least 10 feet from the machine while it is in operation.
7. Never allow anyone to ride on this machine.
8. Never transport cargo on this machine.
9. Hydraulic log splitters develop high fluid pressures during operation. Fluid escaping through a pin hole opening can penetrate your skin and cause blood poisoning, gangrene, or death. Give attention to the following instructions at all times:
    a. Do not check for leaks with your hand.
    b. Do not operate machine with frayed, kinked, cracked, or damaged hoses, fittings, or tubing.
    c. Stop the engine and relieve hydraulic system pressure by cycling the valve control lever from forward to reverse several times while engine is not running; returning to neutral before repairing or adjusting fittings, hoses, tubing, or other system components.
    d. Do not adjust the pressure settings of the pump or valve.
10. Leaks can be detected by passing cardboard or wood, while wearing protective gloves and safety glasses, over the suspected area. Look for discoloration of cardboard or wood.
11. If injured by escaping fluid, see a doctor immediately. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
12. Keep the operator zone and adjacent area clear for safe, secure footing.

13. If your machine is equipped with an internal combustion engine and is intended for use near any unimproved forest, brush, or grass covered land, the engine exhaust should be equipped with a spark arrestor. Make sure you comply with applicable local, state, and federal codes. Take appropriate firefighting equipment with you.
14. This machine should be used for splitting wood only, do not use it for any other purpose.
15. Follow the instructions in the manual(s) provided with any attachment(s) for this machine.

Preparation

1. Always wear safety shoes or heavy boots.
2. Always wear safety glasses or safety goggles when operating this machine.
3. Never wear jewelry or loose clothing that might become entangled in moving or rotating parts of the machine.
4. Make sure machine is on a flat, dry, solid ground before operating.
5. Always block wheels to prevent unintended movement, and lock beam in either the horizontal or vertical position.
6. Always operate this machine from the operator zone(s) specified in the manual. See Figure 2-1.

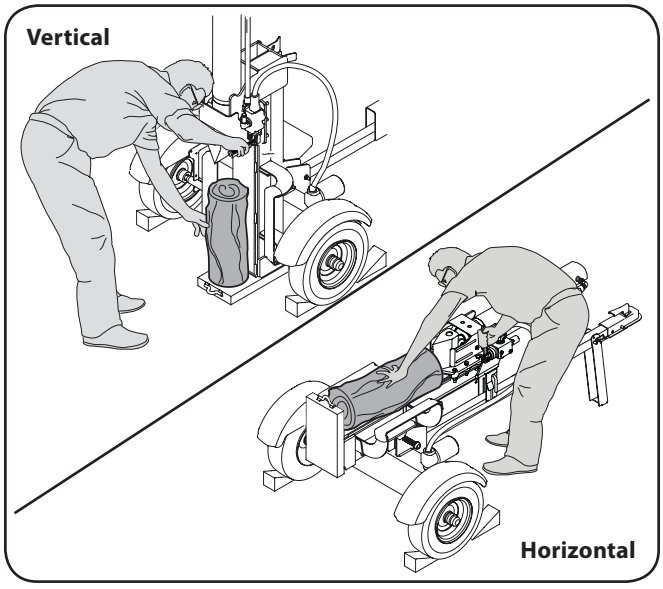


Figure 2-1

7. Logs should be cut with square ends prior to splitting.
8. Use log splitter in daylight or under good artificial light.

Safe Handling of Gasoline

To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.

a. Use only an approved gasoline container.
b. Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
c. Never fuel machine indoors.
d. Never remove gas cap or add fuel while the engine is hot or running.
e. Allow engine to cool at least two minutes before refueling.
f. Never overfill the fuel tank. Fill tank to no more than ½-inch below bottom of filler neck to provide space for fuel expansion.
g. Replace gasoline cap and tighten securely.
h. If gasoline is spilled, wipe it off the engine and equipment and move machine to another area. Wait five (5) minutes before starting the engine.
i. Never store the machine or fuel container inside where there is an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
j. Allow machine to cool at least five (5) minutes before storing.

Operation

1. Before starting this machine, review the "Safe Operation Practices". Failure to follow these rules may result in serious injury to the operator or bystanders.
2. Never leave this machine unattended with the engine running.
3. Do not operate machine while under the influence of alcohol, drugs, or medication.
4. Never allow anyone to operate this machine without proper instruction.
5. Always operate this machine with all safety equipment in place and working. Make sure all controls are operating properly for safe operation.
6. Operator Zone
   a. Horizontal Operating Position: Stand on the control lever side of the log splitter and stabilize log as shown, if needed. See Figure 2-1.
   b. Vertical Operating Position: Stand in front of the log splitter and stabilize log as shown, if needed. See Figure 2-1.

WARNING! When stabilizing log with left hand, remove your hand when the wedge just contacts the log or serious injury may occur.

7. When loading a log, always place your hands on the side of the log, not on the ends, and never use your foot to help stabilize a log. Failure to do so, may result in crushed or amputated fingers, toes, hand, or foot.
8. Use only your right hand to operate the controls.
9. Never attempt to split more than one log at a time.
10. For logs which are not cut square, the least square end of the log should be placed toward the beam and wedge, and the square end placed toward the end plate.

11. When splitting in the vertical position, stabilize the log before moving the control handle. Split as follows:
    a. Place log on the end plate and turn until it leans against the beam and is stable.
    b. When splitting extra large or uneven logs, the log must be stabilized with wooden shims or split wood placed between the log and end plate or ground.
12. Always keep fingers away from any cracks that open in the log while splitting. They can quickly close and pinch or amputate your fingers.
13. Keep your work area clean. Immediately remove split wood around the machine so you do not stumble over it.
14. Do not change the engine governor settings or overspeed the engine. The governor controls the maximum safe operating speed of the engine.
15. Never move this machine while the engine is running.
16. This machine should not be towed on any street, highway or public road without checking the existing federal, state, or local vehicle requirements. Any licensing or modifications such as taillights, etc., needed to comply, is the sole responsibility of the purchaser. If a "Statement of Origin" is required in your state, see your local dealer.
17. Do not tow machine over 45 mph.
18. See Transporting the Log Splitter section in this manual for proper towing instructions once all federal, local, or state requirements are met.

Maintenance and Storage

1. Stop the engine, disconnect the spark plug and ground it against the engine before cleaning, or inspecting the machine.
2. Stop the engine and relieve hydraulic system pressure by cycling the valve control lever from forward to reverse several times while engine is not running; returning to neutral before repairing or adjusting fittings, hoses, tubing, or other system components.
3. To prevent fires, clean debris and chaff from the engine and muffler areas. If the engine is equipped with a spark arrestor muffler, clean and inspect it regularly according to manufacturers instructions. Replace if damaged.
4. Periodically check that all nuts and bolts, hose clamps, and hydraulic fittings are tight to be sure equipment is in safe working condition.
5. Check all safety guards and shields to be sure they are in the proper position. Never operate with safety guards, shields, or other protective features removed.
6. The pressure relief valve is preset at the factory. Do not adjust the valve.
7. Never attempt to move this machine over hilly or uneven terrain without a tow vehicle or adequate help.
8. For your safety, replace all damaged or worn parts immediately with original equipment manufacturer's (O.E.M.) parts only. Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!
9. Do not alter this machine in any manner, alterations such as attaching a rope or extension to the control handle, or adding to the width or height of the wedge may result in personal injury.
10. According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), this product has an *Average Useful Life* of seven (7) years, or 130 hours of operation. At the end of the *Average Useful Life* have the machine inspected annually by an authorized service dealer to ensure that all mechanical and safety systems are working properly and not worn excessively. Failure to do so can result in accidents, injuries or death.

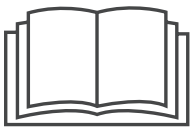
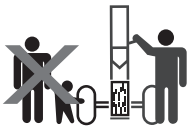
Spark Arrestor

WARNING! This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrestor meeting applicable local or state laws (if any).

If a spark arrestor is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.
A spark arrestor for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 361131 Cleveland, Ohio 44136-0019.

Safety Symbols

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	READ THE OPERATOR'S MANUAL(S) Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate
	WARNING — CRUSHING HAZARD Keep hands away from wedge, end plate, partially split wood and moving parts.
	BYSTANDERS Keep bystanders, helpers and children at least 10 feet away.
	SINGLE OPERATOR Only one person should operate the machine at a time. The adult who loads and stabilizes the log must be the person who operates control handle.
	WARNING — PRESSURIZED FLUID Never check for hose leaks with your hands. High pressure fluid can escape through a pin hole leak and cause serious injury by puncturing the skin and causing blood poisoning.
	EYE PROTECTION Always wear safety glasses or safety goggles when operating this machine.
	WARNING — MOVING WEDGE Keep hands away from wedge and moving parts.
	WARNING—GASOLINE IS FLAMMABLE Allow the engine to cool at least two minutes before refueling.
	WARNING— CARBON MONOXIDE Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
	WARNING— HOT SURFACE Engine parts, especially the muffler, become extremely hot during operation. Allow engine and muffler to cool before touching.

WARNING! Your Responsibility — Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTIONS!

Assembly & Set-Up

3

Contents of Carton

- One Log Splitter
- One Operator's Manual
- One Engine Operator's Manual

WARNING! Use extreme caution when unpacking this machine. Some components are very heavy and will require additional people or mechanical handling equipment.

NOTE: Your log splitter is shipped with motor oil in the engine. You MUST check the oil level before operating. Be careful not to overfill.

NOTE: All references in this manual to the left or right side of the log splitter are from the operating position only. Exceptions, if any, will be specified.

Loose Parts In Carton

- Reservoir Tank
- Engine-Pump Assembly
- Wedge, Beam and Cylinder Assembly
- Tongue Assembly
- Wheels
- Beam Support/Latch Bracket
- Log Tray Brackets
- Fenders
- 2 Hub Caps

Recommended Tools for Opening Crate

- Safety glasses
- Leather gloves
- Wire cutters
- Pry bar
- Claw hammer.

Recommended Tools for Assembly

- Standard Screw Driver
- Standard Socket Set
- Adjustable Wrench
- Torque Wrench
- Pliers
- Side Cutters
- Rubber Mallet

Assembly

Attaching the Fenders

1. Remove all three self-tapping screws and the flat washer from one side of the reservoir tank. See Figure 3-1.

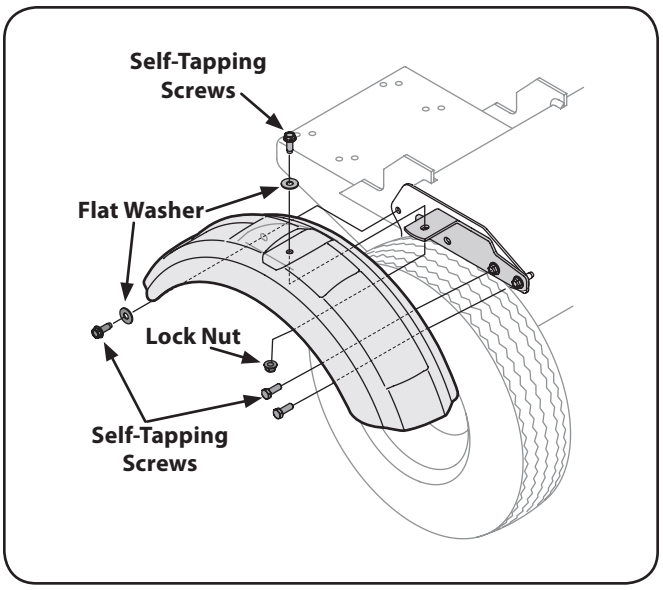


Figure 3-1

2. Place the fender and the fender bracket up against the reservoir tank and align with the holes.

   NOTE: The fender is pre-assembled to the fender bracket by a self-tapping screw, flat washer and lock nut at the factory.

3. Secure the fender bracket to the reservoir tank with two of the self-tapping screws removed in step one. See Figure 3-1.
4. Secure the front of the fender to the reservoir tank using the third self-tapping screw and flat washer removed in step one.
5. Tighten all the hardware.
6. Install the second fender using the instructions above.

Attaching The Wheels To The Reservoir Tank Assembly

1. Block up the reservoir tank assembly about eight to twelve inches.
2. Remove and discard the plastic shipping caps on the outside of the wheels.
3. Remove the cotter pin, slotted nut and flat washer from each axle. See Figure 3-2.

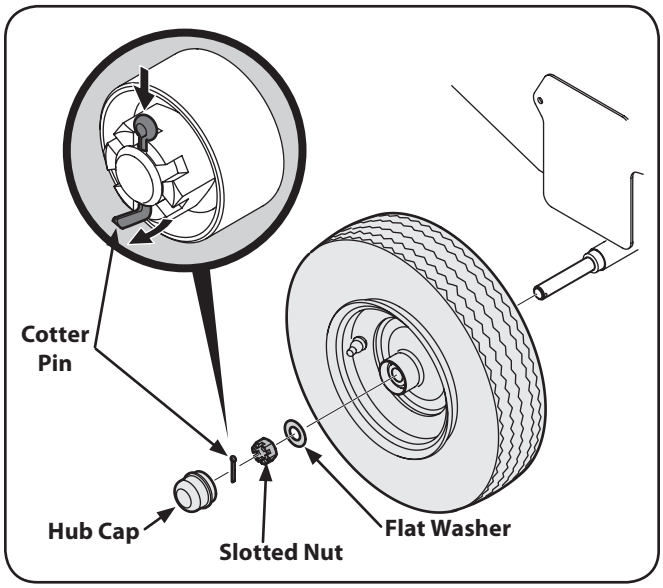


Figure 3-2

NOTE: Wiping the axles with emery cloth before installing the wheels is recommended.

4. Place a wheel on each axle with the valve stem facing outward.
5. Place a flat washer on each axle and secure with a slotted nut.
6. Tighten the slotted nut until snug and then back off approximately ⅓-turn or until one of the slots on the slotted nut lines up with the hole in the axle.
7. Insert the cotter pins through the slots in the nuts and holes in the axle and secure the assembly by bending both ends of the cotter pin out and then up against the end of the axle as shown to provide clearance for the hub cap. See inset Figure 3-2.

   NOTE: The wheels should spin freely and there should be no side to side play.
8. Place the hub caps in position on the wheels and tap onto the axle with a rubber mallet. See Figure 3-2.

Attaching the Beam Support

1. Remove the two hex bolts and lock nuts from the tongue.
2. Place the beam support/latch bracket on the tongue and secure it with the hex bolts and lock nuts previously removed. Tighten Securely. See Figure 3-3.

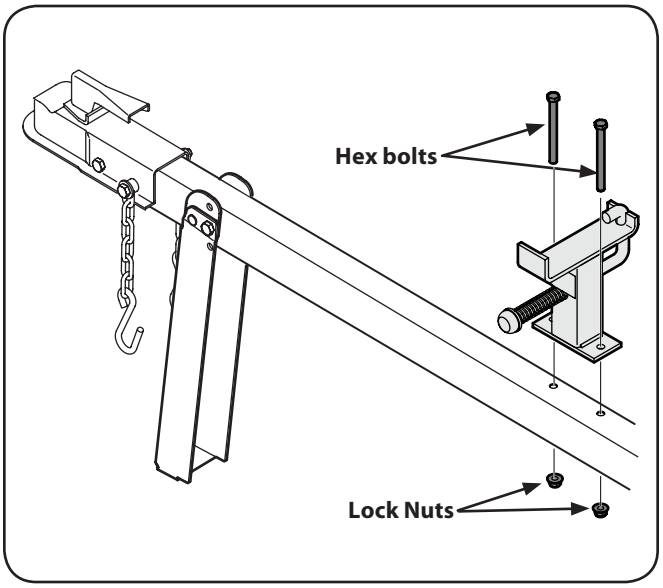


Figure 3-3

Jack Stand

The jack stand is shipped in the transport position.

1. Remove the spring clip and clevis pin and pivot the jack stand toward the ground to the operating position.
2. Secure the jack stand in position with the clevis pin and the spring clip. See Figure 3-4.

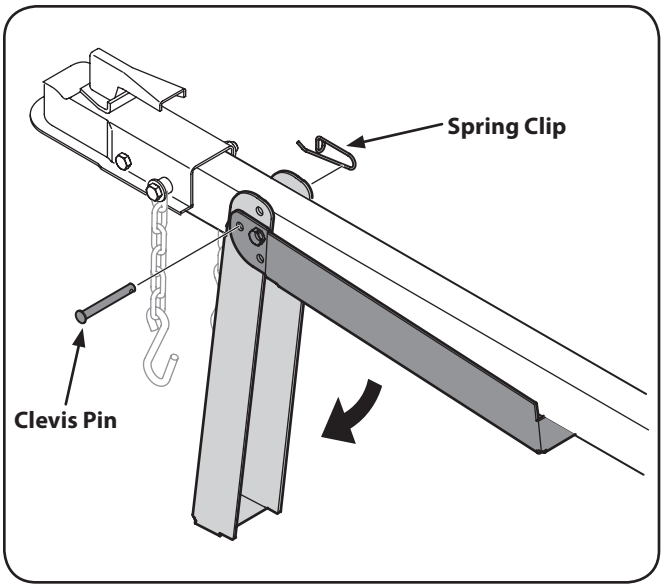


Figure 3-4

Attaching the tongue

1. Remove the two hex bolts and lock nuts on the front of the reservoir tank.

   NOTE: The hardware for attaching the tongue to the reservoir tank is already inserted into the reservoir tank brackets.

2. Place the tongue in position and secure with hardware just removed. See Figure 3-5.

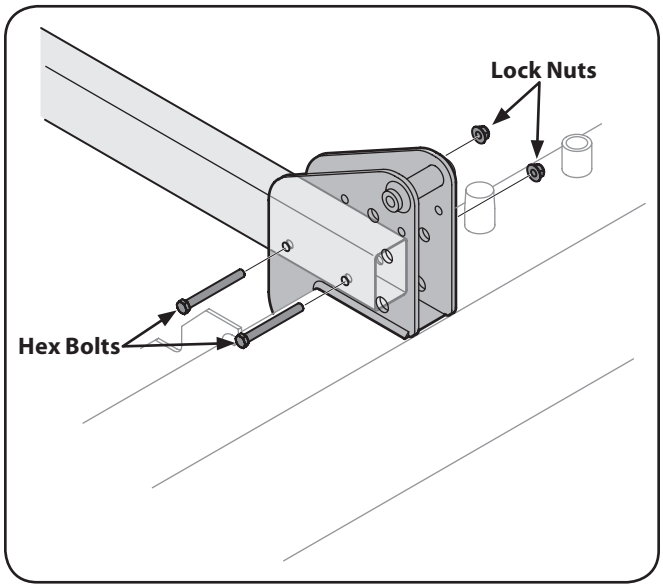


Figure 3-5

3. Remove the reservoir tank from the blocks.

Attaching Beam To Reservoir Tank

1. Stand the wedge, beam, and cylinder assembly upright with cylinder toward the top.

   NOTE: This step will require two people.

2. Remove the hinge pin and cotter pin from the welded brackets on the beam assembly and move the reservoir tank assembly in position against the beam. See Figure 3-6.

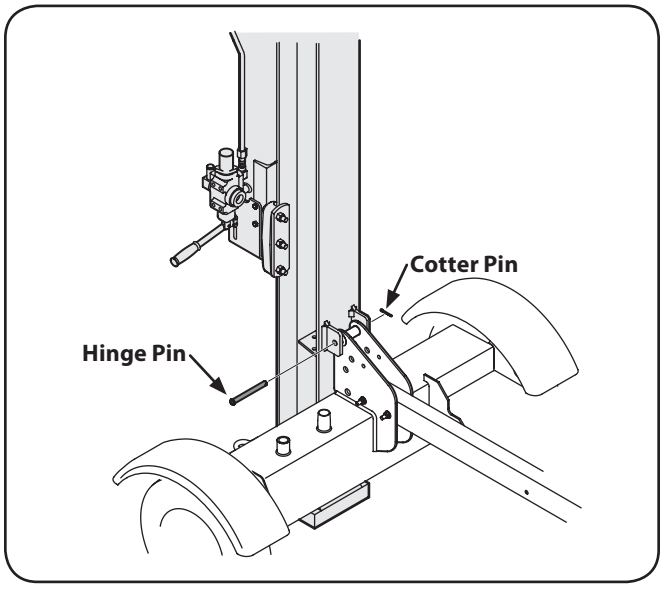


Figure 3-6

3. Lift up on the tongue assembly until the holes are aligned and insert the hinge pin just removed through brackets on beam and reservoir tank assembly. See Figure 3-6.
4. Secure the hinge pin with the cotter pin by bending the ends of the pin. See Figure 3-6.
5. Secure the beam to the tank by pulling out on the vertical beam lock and rotating it up and over the edge of the beam.

Attaching Engine-Pump Assembly

NOTE: The Engine is secured to the crate by a pair of wood screw. Remove these before beginning the assembly.

1. Remove the engine mounting hardware from the engine plate on the tank.
2. Place the engine and pump assembly in position on the engine mounting bracket with the pump facing towards the jack stand.
3. Align the holes in the base of the engine with the appropriate holes in the engine mounting bracket.
4. Secure the engine and pump assembly with the four hex bolts, bell washers and lock nuts removed earlier. Using a torque wrench, tighten to 14 ft-lbs. See Figure 3-7.

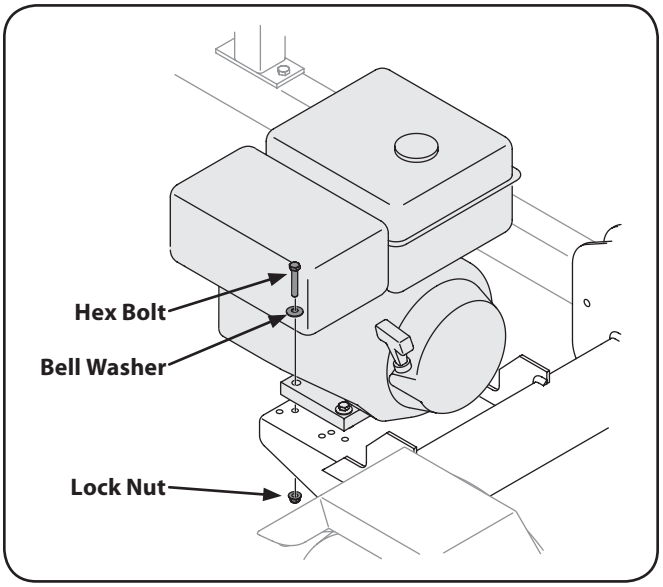


Figure 3-7

Attaching The Hoses

Suction Hose:

The suction hose is attached to the reservoir tank, beneath the engine mounting bracket.

1. Loosen the hose clamp on the free end of the hose. Remove any protective insert from the end of the hose.
2. Remove the protective cap from the fitting on the bottom of the pump (some oil may flow from pump).
3. Attach the end of the suction hose to the fitting on the bottom of the pump. See Figure 3-8.

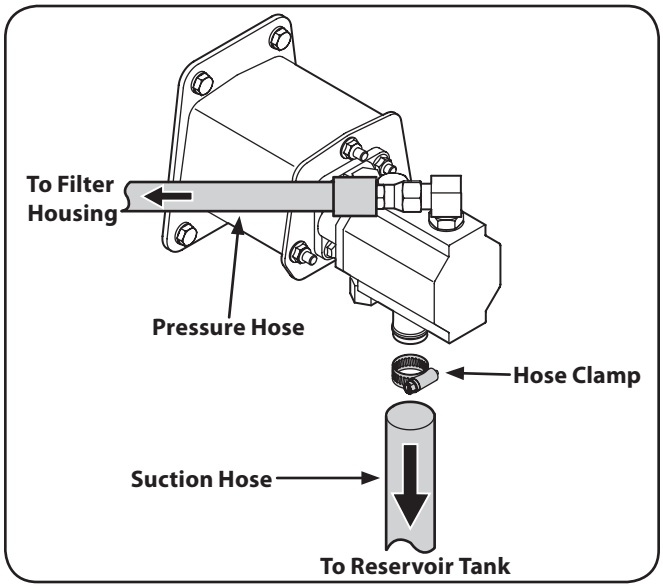


Figure 3-8

4. Place the hose clamp at the base of the fitting and tighten securely.

Pressure Hose:

The pressure hose is attached to the control valve at the factory.

1. Route the pressure hose between the beam and the tongue to the top of the pump.
2. Remove the protective hose cover.
3. Secure the pressure hose to the pump and cut the zip tie securing hose guard. See Figure 3-8.

Return Hose:

The return hose is attached to the control valve at the factory.

1. Loosen the hose clamp on the free end of the hose. Remove any protective insert from the end of the hose.
2. Remove the protective cap from the top of the filter head.
3. Attach the end of the hose to the fitting on top of the filter. Place the hose clamp at the base of the fitting, tighten securely and cut the zip tie securing hose guard. See Figure 3-9.

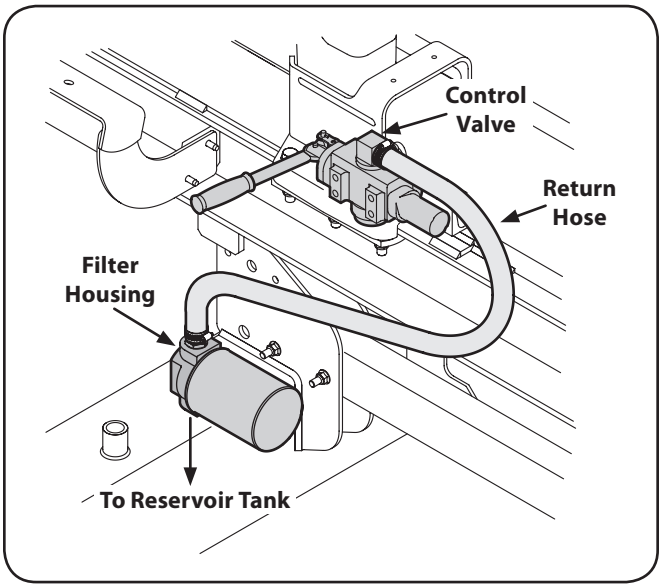


Figure 3-9

Attaching The Log Tray

1. Pull the beam lock on the beam support/latch bracket out and pivot it down. Pull the vertical beam lock on the tank and pivot it down. Carefully lower the wedge, beam, and cylinder assembly to the horizontal position. Pull out and rotate beam lock to secure beam in the horizontal position.

   NOTE: The hardware for attaching the log tray can be found already inserted into the beam.
2. Remove the tray mounting screws from the beam.
3. Place a log tray assembly against the lower outside surface of the beam flange and secure using the four self-tapping screws previously removed. See Figure 3-10.

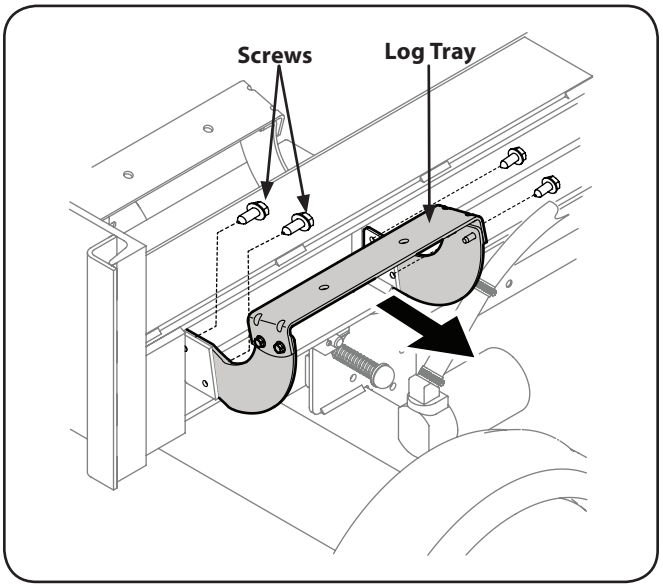


Figure 3-10

4. Attach second tray support bracket assembly to the other side of the beam using the instructions above.

Set-Up

Preparing the Log Splitter

1. Lubricate the beam area (where the splitting wedge will slide) with engine oil. Do not use grease.
2. Remove the vented reservoir dipstick, which is located next to the hydraulic filter on top of the reservoir tank. See Figure 3-11.

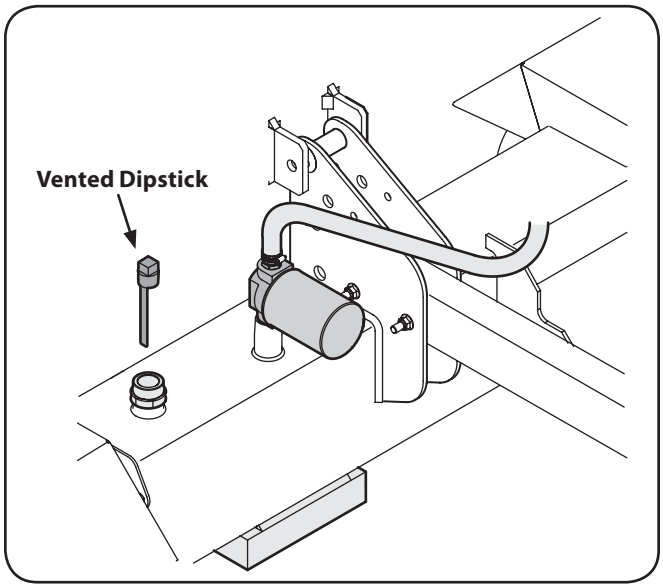


Figure 3-11

3. Fill the reservoir tank with approved hydraulic fluid which includes Shell Tellus® S2 M 32 Hydraulic Fluid, Dexron® III/ Mercon® automatic transmission fluid, Pro-Select™ AW-32 Hydraulic Oil or 10WAW-ISO viscosity grade 32 hydraulic oil. It is not recommended that fluids be mixed.

   NOTE: The reservoir tank has a capacity of approximately 5.8 gallons (21.95 liters) and the entire hydraulic system has a capacity of 7.8 gallons (29.52 liters).
4. Check the fluid level using the dipstick. Do not overfill.
5. Replace the vented dipstick securely, tightening it until the top of the threads are flush with top of the pipe.
6. Disconnect the spark plug and prime the pump by pulling the recoil starter as far as it will go. Repeat approximately 10 times.
7. Reconnect the spark plug wire and start the engine following the instructions in the Operation Section.
8. Use the control handle to engage the wedge to the farthest extended position. Then retract the wedge.
9. Refill the reservoir within range marked on the dipstick. See Figure 3-12.

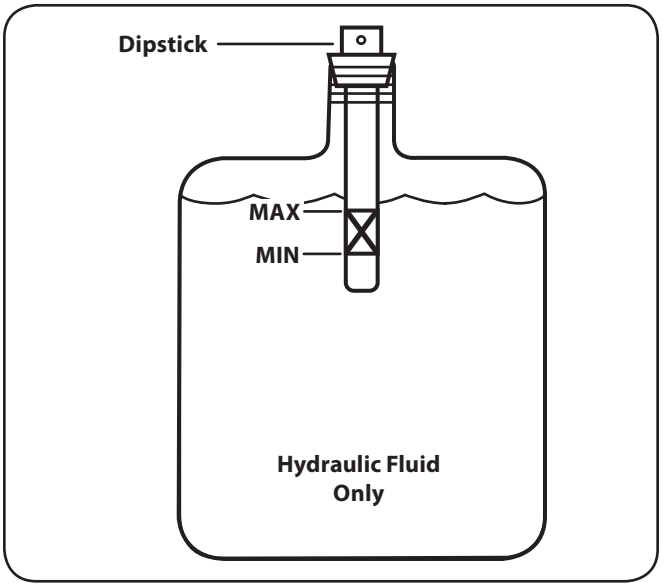


Figure 3-12

10. Extend and retract the wedge 12 complete cycles to remove trapped air in the system (the system is "self-bleeding").

WARNING! Much of the original fluid has been drawn into the cylinder and hoses. Make certain to refill the reservoir to prevent damage to the hydraulic pump. Failure to refill the tank will void the log splitter's warranty.

NOTE: Some fluid may overflow from the vent plug as the system builds heat and the fluid expands and seeks a balanced level. Do not operate the log splitter without the proper amount of hydraulic fluid in the reservoir tank.

Tires

The max operating pressure is 30 psi. Under any circumstances do not exceed the manufacturer's recommended psi. Maintain equal pressure on all tires.

WARNING! Excessive pressure when seating beads may cause the tire/rim assembly to burst with force sufficient to cause serious injury.

Gas and Oil Fill-Up

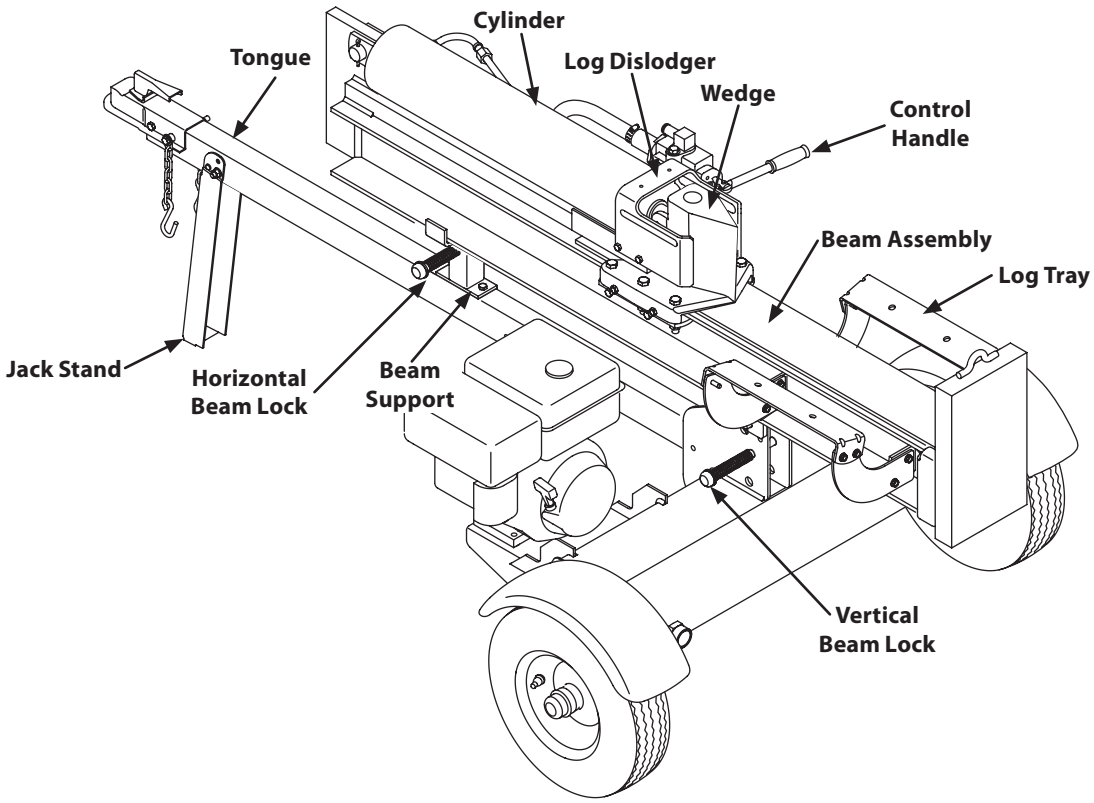
Service the engine with gasoline and oil as instructed in the engine manual packed with your log splitter. Read the instructions carefully.

WARNING! Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running.

NOTE: Your log splitter is shipped with motor oil in the engine. However, you MUST check the oil level before operating. Be careful not to overfill. Gasoline can be added to the engine when the log splitter is in either the horizontal or vertical position. However, there are less obstructions when the machine is in the vertical position.

Controls & Features

4



Engine Controls

See the Engine Operator's Manual for the location and function of the controls on the engine.

Beam Locks

These two locks, as their name suggests, are used to secure the beam in the horizontal or the vertical position. The vertical beam lock is located next to the engine. The horizontal beam lock is located on the beam support latch bracket.

Control Handle

The control handle has three positions; Forward, Neutral and Reverse. See the Operation section for instructions.

Wedge

The wedge is used to split the wood.

Log Dislodger

The log dislodger is designed to remove any partially split wood from the wedge. This may occur while splitting large diameter wood or freshly cut wood.

Log Tray

The log tray is designed to catch the log after it is split.

Tongue

The tongue is used to attach to a towing vehicle for transportation.

End Plate

The end plate holds the log in place while the wedge splits the log.

Operation

5

Starting the Engine

Pre-Start Checklist

1. Remove the dipstick and check hydraulic fluid level. Refill if necessary. Approved fluids include Shell Tellus® S2 M 32 Hydraulic Fluid, Dexron® III / Mercon® automatic transmission fluid, Pro-Select™ AW-32 Hydraulic Oil or 10WAW-ISO viscosity grade 32 hydraulic oil. Check the engine oil level. Refill if necessary.
2. Check the engine oil level. Refill if necessary.
3. Fill up with gasoline if necessary.
4. Lubricate the beam area where the splitting wedge will slide with engine oil. Do not use grease to lubricate. Make sure to lubricate both the front and the back of the beam face.
5. Attach the spark plug wire to the spark plug.

Starting the Engine

WARNING! Read, understand and follow all the instructions and warnings on the machine and in this and the included Engine Operator's Manual before operating.

WARNING! Wear leather work gloves, safety shoes, ear protection and safety glasses when operating the log splitter. Ensure safe footing.

NOTE: Detailed starting instructions can be found in the separately included engine operator's manual.

1. Attach the spark plug wire to the spark plug. Make certain the metal cap on the end of the spark plug wire is fastened securely over the metal tip of the spark plug.
2. Move the fuel valve lever to the ON position.
3. To start a cold engine, move the choke lever to the CLOSED position. To restart a warm engine, leave the choke lever in the OPEN position.
4. Move the throttle lever away from the Minimum position, about ⅓ of the way toward the Maximum position.
5. Turn the engine switch to the ON position.
6. Grasp the starter grip and pull the rope out slowly until the engine reaches the start of compression cycle (the rope will pull slightly harder at this point).
7. Pull the rope with a rapid, full arm stroke. Keep a firm grip on starter handle. Let the rope rewind slowly. Repeat until engine cranks.

   NOTE: Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.
8. If the choke lever has been moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.
9. Move the throttle lever to the speed desired.
10. In cold weather, run the wedge up or down the beam 6 to 8 times to circulate the hydraulic fluid.

WARNING! When starting a warm engine, the muffler and surrounding areas are hot and can cause a burn. Do not touch these areas.

Stopping the Engine

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure.

1. Move the throttle lever to the Minimum position.
2. Turn the engine switch to the OFF position.
3. Turn the fuel valve lever to the OFF position.
4. Disconnect the spark plug wire and ground it against the engine to prevent unintended starting.

Using the Log Splitter

Operating Positions

1. Place the log splitter on flat, dry, solid ground.
2. Block the front and back of both wheels. See Figure 5-1.

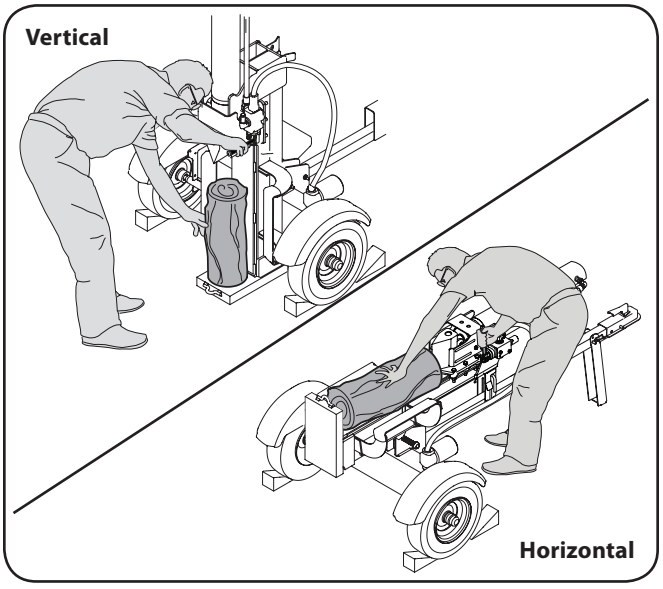


Figure 5-1

3. Place the beam in either the horizontal or vertical position and lock into place.

WARNING! Take extra care when raising and lowering the beam as it is fairly heavy. Having a second person assist with raising or lowering the beam is recommended. Be sure to keep hands away from any possible pinch points.

4. To place the beam in the Vertical Position proceed as follows:

WARNING! Always use the log splitter in the vertical position when splitting heavy logs.

   a. Pull the horizontal beam lock out to release the beam and pivot the beam to the vertical position.

   b. To lock the beam in the vertical position, pull out on the vertical beam lock and rotate it to secure the beam. See Figure 5-2.

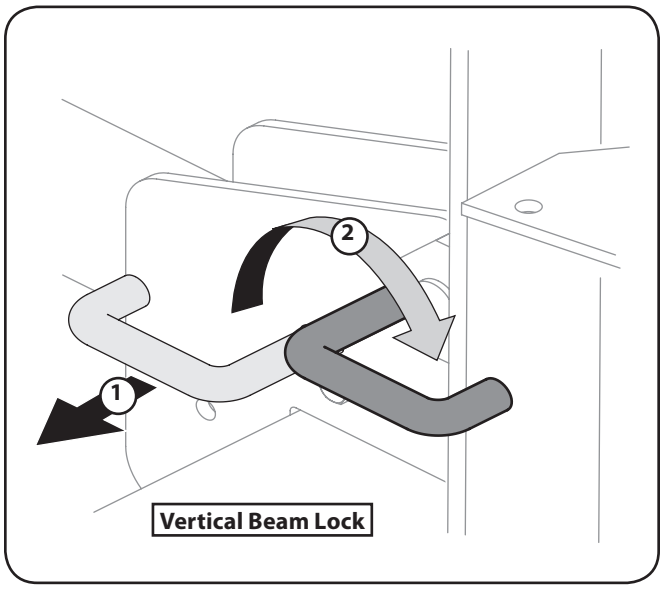


Figure 5-2

5. To place the beam in the Horizontal Position proceed as follows:

   a. Pull the vertical beam lock out and rotate it down. Pivot the beam to the horizontal position.

   b. The horizontal beam lock is self-locking. The spring loaded lock will snap into place when the beam is lowered into position. See Figure 5-3.

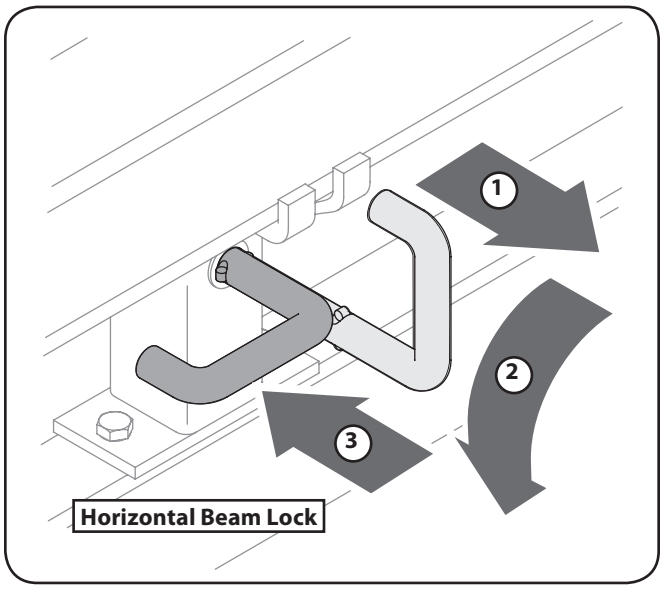


Figure 5-3

Using the Control Handle

The control handle has three positions. See Figure 5-4.

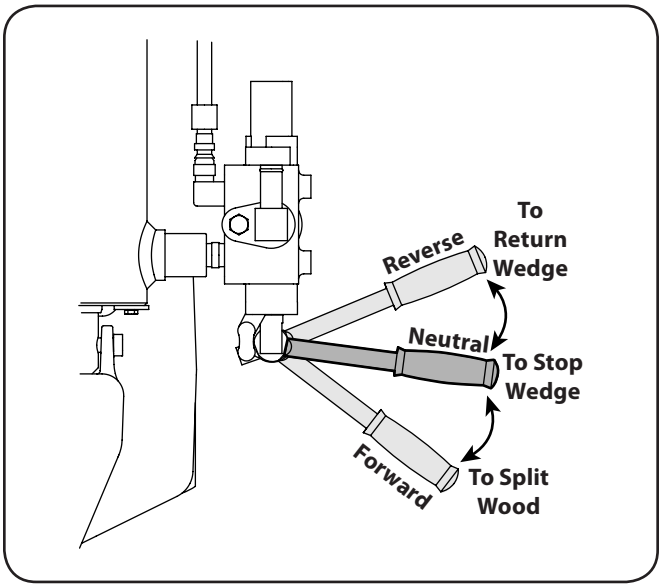


Figure 5-4

- **FORWARD** — Move the control handle to the FORWARD position to move wedge toward the log to split.

  NOTE: The control handle will return to the NEUTRAL position as soon as the handle is released (FORWARD position only).

- **NEUTRAL —** Release the control handle or move the lever to the NEUTRAL position to stop the wedge movement.

- **REVERSE** — Move the control handle to the REVERSE position to return the wedge toward the cylinder. The control handle stays in the REVERSE position and returns to the NEUTRAL position automatically when fully retracted. Do not hold the handle in the REVERSE position when fully retracted.

  NOTE: The REVERSE position may also be moved back to the NEUTRAL position manually, if necessary.

WARNING! If the control handle on your log splitter is not functioning properly, STOP USE IMMEDIATELY and contact an authorized service dealer.

WARNING! Do not attempt to service, repair or replace control valve. Contact an authorized service dealer.

WARNING! Do not attempt to adjust or modify the control valve or the hydraulic system from its original settings or manufacture in any way.

Splitting the Wood

1. Start the engine as instructed in the Engine Operator's manual included with the log splitter.
2. Place the log against the end plate and only split the wood in the direction of the grain.

3. To stabilize the log, place your left hand on the side of the log opposite the beam as shown in Figure 5-1.

WARNING! Never place a hand on the ends of the log, between the log or end plate and the splitting wedge.

WARNING! Only one operator permitted. Adult who loads and stabilizes the log, must be the person who operates the control handle.

4. Move the control handle to the forward position to split the wood.
5. Remove left hand from the side of the log once wedge just contacts the log. Continue moving control handle forward to split the log.
6. Release the control handle to stop the wedge movement.
7. Move the control handle to the reverse position to return the wedge.
8. To remove partially split wood from wedge, move the control handle to the REVERSE position until the wedge is fully retracted to allow split wood portion to contact the log dislodger.

WARNING! Never remove partially split wood from the wedge with your hands. Fingers may become trapped between the split wood.

9. Once removed from the wedge with the log dislodger, split the wood from the opposite end or in another location.

Transporting the Log Splitter

1. Lower the beam to its horizontal position. Make certain the beam is locked securely with the horizontal beam lock.
2. Remove the spring clip and clevis pin from the jack stand.
3. Support the tongue and pivot the jack stand up against the tongue. See Figure 5-5.

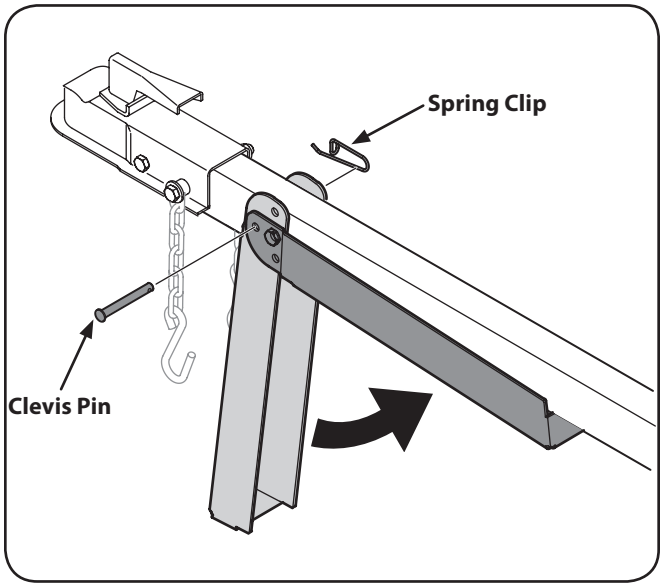


Figure 5-5

4. Secure with the spring clip and clevis pin previously removed. See Figure 5-5.
5. Attach the coupler hitch to a class I or higher 2" ball on the towing vehicle; latch securely.
   a. If the coupler hitch does not fit on the ball, turn the adjustment nut one turn counter-clockwise.
   b. If the coupler hitch is too loose on the ball, turn the adjustment nut one turn clockwise. Then recheck and adjust accordingly.
6. Connect the safety chains to the towing vehicle.
7. Plug in the lights to the tail light connector on the tow vehicle.
8. Move fuel shut-off valve to off position.

WARNING! Do not tow faster than 45mph and check the local, state and federal requirements before towing on any public road.

NOTE: Use caution when backing up, using a spotter outside the vehicle is recommended.

Operating Tips

Always:

1. Use clean fluid and check the fluid level regularly.
2. Use an approved hydraulic fluid. Approved fluids include Shell Tellus® S2 M 32 Hydraulic Fluid, Dexron® III / Mercon® automatic transmission fluid, Pro-Select™ AW-32 Hydraulic Oil or 10WAW-ISO viscosity grade 32 hydraulic oil. Check the engine oil level. Refill if necessary.
3. Use a filter (clean or replace regularly).
4. Use a breather cap on the fluid reservoir.
5. Make sure the pump is mounted and aligned properly.
6. Use a flexible "spider" type coupling between the engine and pump drive shafts.
7. Keep the hoses clear and unblocked.
8. Bleed the air out of hoses before operating.
9. Flush and clean the hydraulic system before restarting after servicing.
10. Use "pipe dope" on all hydraulic fittings.
11. Allow time for the engine to warm-up before splitting wood.
12. Prime the pump before initial start-up by turning over the engine with the spark plug disconnected.
13. Split wood along the grain (lengthwise) only.

Never:

1. Use when fluid is below 20° F (-7° C) or above 150° F (65° C).
2. Use a solid engine/pump coupling.
3. Operate through the relief valve for more than five (5) seconds.
4. Attempt to adjust unloading or relief valve settings.
5. Operate with air in hydraulic system.
6. Use Teflon tape on hydraulic fittings.
7. Attempt to cut the wood across the grain.
8. Attempt to remove partially split wood from the wedge with your hands. Fully retract the wedge to dislodge wood with the log dislodger.

Maintenance & Adjustments

6

WARNING! Do not at any time make any adjustments without first stopping engine, disconnecting spark plug wire and grounding it against the engine. Always wear safety glasses during operation or while performing any adjustments or repairs.

Maintenance

Engine

Refer to the separate Engine Operator's Manual for all engine maintenance instructions.

Tire Pressure

See the sidewall of the tire for recommended pressure. Do not, under any circumstances, exceed manufacturer's recommended psi. Maintain equal pressure on all tires.

WARNING! Excessive pressure when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury. Refer to the sidewall of tire for recommended pressure.

Hydraulic Fluid and Inlet Filter

Check the hydraulic fluid level in the log splitter reservoir tank before each use. Maintain the fluid level within the range specified on the dipstick at all times. Change the hydraulic fluid in the reservoir every 100 hours of operation. Follow the steps below:

1. Place a suitable oil collection container under the tank.
2. Disconnect the suction hose from the bottom of the reservoir tank, and allow the fluid to drain into container.
3. Carefully unthread the inlet filter and clean it with penetrating oil. See Figure 6-1.

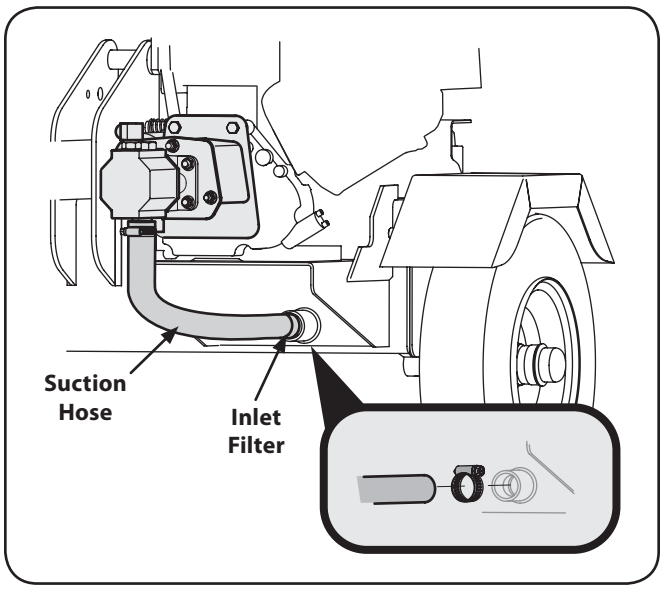


Figure 6-1

4. Allow the fluid to drain into a suitable container.
5. Reinsert the filter and reconnect the hose. Fill the reservoir as instructed in the Assembly & Set-Up section. Approved fluids include Shell Tellus® S2 M 32 Hydraulic Fluid, Dexron® III / Mercon® automatic transmission fluid, Pro-Select™ AW-32 Hydraulic Oil or 10WAW-ISO viscosity grade 32 hydraulic oil. Check the engine oil level. Refill if necessary.
6. Maintain the fluid level within the range specified on the dipstick at all times.

   NOTE: Always dispose of used hydraulic fluid and engine oil at approved recycling centers only.
7. Contaminants in fluid may damage the hydraulic components. Flushing the reservoir tank and hoses with kerosene whenever service is performed on the tank, hydraulic pump or valve is recommended. Contact an authorized service dealer.

Hydraulic Filter

Change the hydraulic filter every 50 hours of operation. Use only a 10 micron hydraulic filter. Order part number 723-0405.

Beam and Splitting Wedge

Lubricate both sides of the beam (where it comes into contact with the splitting wedge), before each use, with engine oil.

Hose Clamps

Before each use, check if the hose clamps on the suction hose (attached to the side of the pump) are tight. Check the hose clamps on the return hose at least once a season.

Flexible Pump Coupler

The flexible pump coupler is a nylon "spider" insert, located between the pump and the engine shaft. Over time, the coupler will harden and deteriorate. If you detect vibration or noise coming from the area between the engine and the pump contact an authorized service dealer. If the coupler fails completely, you will experience a loss of power.

Adjustments

Wedge Assembly Adjustment

As normal wear occurs and there is excessive "play" between the wedge and beam, adjust the bolts on the side of the wedge assembly to eliminate excess space between the wedge and the beam.

1. Loosen the jam nuts on the two adjustment bolts on the side of the wedge. See Figure 6-2.

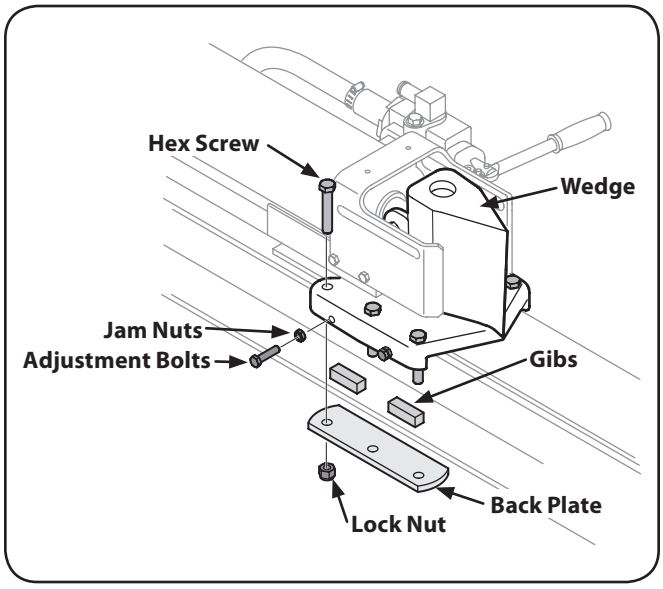


Figure 6-2

2. Turn the adjustment bolts in until snug and then back them off slowly (approximately 1-½ turns).
3. Re-tighten the jam nuts securely against the side of the wedge to secure the adjustment bolts in this position.

Gib Adjustment

Periodically remove and replace the "gibs" (spacers) between the wedge assembly and the back plate.

NOTE: The gibs may be rotated and/or turned over for even wear.

1. Loosen the lock nuts under each back plate and slide the gibs out. See Figure 6-2.
2. Rotate or replace the gibs.
3. Re-assemble the back plate and secure with the lock nuts.
4. Re-adjust the bolts on the side of the wedge assembly.

Raising and Lowering Beam

1. Place the log splitter on a firm, level surface.
2. To raise the beam for vertical operation:
   a. Pull out the horizontal beam lock on the tongue.
   b. Pivot beam lock down to release the beam.
   c. Move the beam to the vertical position. Secure it with the beam lock on the reservoir tank assembly.

WARNING! Always use the log splitter in the vertical position when splitting heavy logs.

3. To lower the beam for horizontal operation:
   a. Pull out the vertical beam lock on the reservoir tank.
   b. Pivot the beam lock down to release the beam.
   c. Carefully pull back on the beam and lower it to the horizontal position.
   d. To lock the beam in the horizontal position, pull out on the horizontal beam lock and rotate it to secure the beam.

Beam and Splitting Wedge

The wedge plate on the log splitter is designed so the gibs on the side of the wedge plate can be removed and rotated and/or turned over for even wear. Make certain to readjust the adjustment bolts so the wedge moves freely, but no excess space exists between the wedge plate and the beam.

Off-Season Storage

If the log splitter will not be used for more than 30 days, prepare for storage as follows:

WARNING! Never store machine with fuel in the fuel tank inside of building where fumes may reach an open flame or spark, or where ignition sources are present such as hot water and space heaters, furnaces, clothes dryers, stoves, electric motors, etc.

1. Clean the log splitter thoroughly.

   NOTE: The use of a pressure washers or garden hose to clean your log splitter is not recommended. They may cause damage to bearings or the engine. The use of water will result in shortened life and reduce serviceability.
2. Wipe the log splitter with an oiled rag to prevent rust, especially on the wedge and the beam.
3. Drain the fuel tank. Always drain the fuel into an approved container outdoors, away from an open flame. Be sure that the engine is cool before draining the fuel. Do not smoke while handling fuel.
4. Start the engine and let it run until the fuel lines and carburetor are empty.
5. Remove the spark plug. Holding a rag over the cylinder hole, pour approximately ½-ounce (approximately one tablespoon) of engine oil into the cylinder and crank slowly to distribute the oil.
6. Replace the spark plug.
7. Do not store the gasoline from one season to another.
8. Replace your gasoline can if it starts to rust. Rust and/or dirt in the gasoline will cause problems.
9. Store the log splitter in a clean, dry area. Do not store next to any corrosive materials, such as fertilizer.

   NOTE: If storing in an unventilated or metal storage shed, be certain to rustproof the equipment by coating with a light oil or silicone.

Flexible Pump Coupler

The flexible pump coupler is a nylon "spider" insert, located between the pump and the engine shaft. Over time, the coupler will harden and deteriorate. Replace the coupler if you detect vibration or noise coming from the area between the engine and the pump. If the coupler fails completely, you will experience a loss of power.

NOTE: Never hit the engine shaft in any manner, as a blow will cause permanent damage to the engine.

1. Disconnect the spark plug wire and ground it against the engine.
2. Remove the three flange lock nuts and hex screws that secure the pump to the coupling shield. Two flange lock nuts and hex screws are at the bottom corners and one is in the top center. See Figure 7-1.

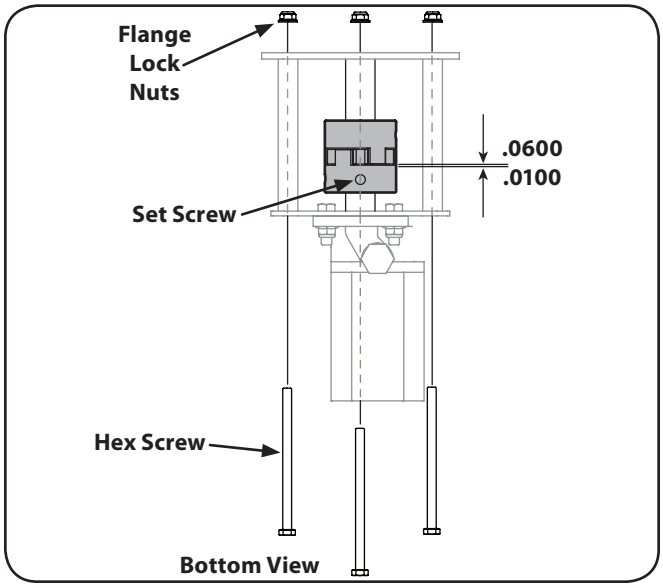


Figure 7-1

3. Remove the pump.
4. Loosen the set screw on the pump coupling half and remove the coupling half.
5. Rotate the engine by slowly pulling the starter handle until the engine coupling half set screw is at the bottom. Loosen the set screw using an allen wrench and slide the coupling half off the engine shaft.
6. Slide the new engine coupling half onto the engine shaft until the end of the shaft is flush with the inner portion of the coupling half. (There must be space between the end of the engine support bracket and the coupling half). Tighten the set screw.
7. Install the nylon "spider" onto the engine coupling half.
8. Install the pump coupling half and key on the pump shaft. Rotate the coupling half until the set screw faces down. Do not tighten set screw.
9. Align the pump coupling half with the nylon "spider" by rotating the engine using the starter handle. Slide the coupling half into place while guiding the three mounting bolts through the holes in the pump support bracket.
10. Secure with the nuts removed earlier.
11. Set .0100" to .0600" of a clearance/gap between the nylon "spider" and the engine coupling half by sliding a feeler gauge or matchbook cover between the nylon "spider" and the engine coupling half and moving the pump coupling half as needed. Secure the pump coupling half with the set screw. See Figure 7-1.

    NOTE: Make certain the proper clearance/gap is obtained before tightening the set screw.
12. Reconnect the spark plug.

Troubleshooting

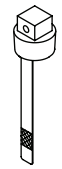
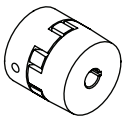
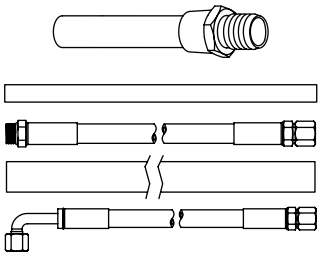
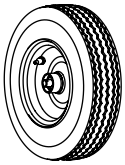
8

Problem	Cause	Remedy
Engine fails to start	1. Spark plug wire disconnected. 2. Fuel tank empty or stale fuel. 3. Choke, if equipped, not in CHOKE position. 4. Faulty spark plug. 5. Blocked fuel line. 6. Engine not primed properly (If equipped). 7. Throttle control lever not in correct starting position.	1. Connect wire to spark plug. 2. Fill tank with clean, fresh gasoline. 3. Move choke to CHOKE position. 4. Clean, adjust gap, or replace. 5. Clean fuel line. 6. Prime engine. 7. Move throttle lever to FAST position.
Engine running erratically/ inconsistent RPM (hunting or surging)	1. Log Splitter running with CHOKE applied (if equipped). 2. Spark plug wire loose. 3. Blocked fuel line or stale fuel. 4. Water or dirt in fuel system. 5. Dirty air cleaner. 6. Carburetor not adjusted properly.	1. Move choke lever to RUN position. 2. Connect and tighten spark plug wire. 3. Clean fuel line; fill tank with clean, fresh (less than 30 days old) gasoline. 4. Drain fuel tank. Refill with fresh fuel. 5. Clean or replace air cleaner. 6. See authorized service dealer.
Engine Overheats	1. Engine oil level low. 2. Dirty air cleaner. 3. Carburetor not adjusted properly.	1. Fill crankcase with proper oil. 2. Clean or replace air cleaner. 3. See authorized service dealer.
Cylinder rod will not move	1. Broken drive shaft. 2. Set screws in coupling not adjusted properly. 3. Loose shaft coupling. 4. Gear sections damaged. 5. Damaged relief valve. 6. Hydraulic lines blocked. 7. Incorrect oil level. 8. Damaged directional valve. 9. Blocked directional valve.	1. See authorized service dealer. 2. See authorized service dealer. 3. Correct engine/pump alignment as necessary. 4. See authorized service dealer. 5. See authorized service dealer. 6. Flush and clean hydraulic system. 7. Check oil level. 8. See authorized service dealer. 9. Flush and clean hydraulic system.

Problem	Cause	Remedy
Slow cylinder shaft speed while extending and retracting.	1. Gear sections damaged. 2. Excessive pump inlet vacuum. 3. Slow engine speed. 4. Damaged relief valve. 5. Incorrect oil level. 6. Contaminated oil. 7. Directional valve leaking internally. 8. Internally damaged cylinder.	1. See authorized service dealer. 2. Make certain pump inlet hoses are clear and unblocked-use short, large diameter inlet hoses. 3. See authorized service dealer. 4. See authorized service dealer. 5. Check oil level. 6. Drain oil, clean reservoir, and refill. 7. See authorized service dealer. 8. See authorized service dealer.
Leaking Cylinder	1. Broken seals. 2. Scored cylinder.	1. See authorized service dealer. 2. See authorized service dealer.
Engine runs but wood will not split or wood splits too slowly	1. Small gear section damaged. 2. Pump check valve leaking. 3. Excessive pump inlet vacuum. 4. Incorrect oil level. 5. Contaminated oil. 6. Directional valve leaking internally. 7. Overloaded cylinder. 8. Internally damaged cylinder.	1. See authorized service dealer. 2. See authorized service dealer. 3. Make certain pump inlet hoses are clear and unblocked. 4. Check oil level. 5. Drain oil, clean reservoir, and refill. 6. See authorized service dealer. 7. Do not attempt to split wood against the grain. 8. See authorized service dealer.
Engine stalls during splitting	1. Low horsepower/weak engine. 2. Overloaded cylinder.	1. See authorized service dealer. 2. Do not attempt to split wood against the grain or see authorized service dealer.
Engine will not turn or stalls under low load conditions	1. Engine/pump misalignment. 2. Frozen or seized pump. 3. Low horsepower/weak engine. 4. Hydraulic lines blocked. 5. Blocked directional valve.	1. Correct alignment as necessary. 2. See authorized service dealer. 3. See authorized service dealer. 4. Flush and clean hydraulic system. 5. Flush and clean hydraulic system.
Leaking pump shaft seal	1. Broken drive shaft. 2. Engine/pump misalignment. 3. Gear sections damaged. 4. Poorly positioned shaft seal. 5. Plugged oil breather.	1. See authorized service dealer. 2. Correct alignment as necessary. 3. See authorized service dealer. 4. See authorized service dealer. 5. Make certain reservoir is properly vented.

Replacement Parts

9

Component	Part Number and Description	
	737-0348A	Vented Dipstick
	735-04103 718-04395 718-04392 710-1842	Spider Bushing Coupling, .875 Coupling, .500 Set Screw
	723-0405	Hydraulic Oil Filter
	737-04308 727-0451 727-04288 727-0443 727-04362	Inlet Filter Inlet Hose Hydro Hose Return Hose Hydro Hose
	726-0132	Hose Clamp
	634-0186	Wheel Assembly, 16.0 x 4.8 x 8.0

Phone 1300 951 594 to order replacement parts or a complete Parts Manual (have your full model number and serial number ready). Parts Manual downloads are also available free of charge at www.mtdproducts.com.

Notes

Warranty Conditions — Australia (Not applicable to other Regions)

The benefits given to you under this warranty are in addition to other rights and remedies that you have under Australian law in relation to the goods.

MTD Products Australia Pty Ltd warrants that this machine is free from defects in material and workmanship. This warranty is limited to repairing or replacing any part which appears upon inspection by MTD Products Australia Pty Ltd or its agent to be defective in material or workmanship.

A separate warranty is provided in respect of the engine for this machine. Refer to the engine warranty statement in the Engine Owner's Manual which has been included with this machine.

For domestic use, this warranty will apply for a period of 2 years from date of purchase. Warranty for commercial or industrial use is 90days from the date of purchase. In the event of dispute, MTD Products Australia Pty Ltd will determine whether the machine was used for domestic, or commercial or industrial use.

All costs associated with claiming under this warranty must be borne by you, including transport costs incurred in the repair or replacement of any defective part.

This warranty excludes fair wear and tear and any damage caused by misuse or abuse. Parts such as Blades, Bump Knobs, Outer Spools, Cutting Line, Inner Reels, Starter Pulley, Starter Ropes, Drive Belts, Saw Blades, Guide Bars, Cultivator Tines, Spark Plugs, Carburettor Adjustments and Filters which can be subjected to use beyond their normal intended working capacity are also excluded.

This warranty is void if alterations are made to the machine without MTD Products Australia Pty Ltd prior written authority.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

IN ORDER TO MAKE A CLAIM UNDER THIS WARRANTY YOU WILL NEED TO TAKE YOUR PRODUCT AND YOUR PROOF OF PURCHASE TO AN AUTHORISED MTD DEALER. YOUR NEAREST MTD DEALER CAN BE FOUND at www. mtd.com.au. All SERVICING AND REPAIRS MUST USE GENUINE SPARE PARTS OR YOUR WARRANTY WILL BE VOID.

For your Record:

Retailers Name: ..... Address: .....

Phone No: ..... Model No: .....

Serial No: ..... Date of Purchase: .....

MTD Products Australia Pty Ltd.

Postal Address: PO. Box 376 Dandenong. Vic. 3175

Business Address: 6 Zenith Road, Dandenong. Vic. 3175 and 97 Trade Street. Lytton.

Qld. 4178

Email Address: mtdservice@mtd.com.au Customer Service Phone: 1300 951 594

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